The 105th ICR Annual Symposium

THE 105TH ICR ANNUAL SYMPOSIUM

(2 December 2005)

ORAL PRESENTATION

ONO, Teruo (Magnetic Materials)
"Manipulation of Magnetization by Spin-current"

NISHIDA, Koji (Polymer Materials Science)
"Inversion of Interaction and Structure Formation in Polyelectrolyte Solution"

TSUGE, Tomohiko (Molecular Biology)
"A Master Regulator Linking Plant Environmental Responses to Morphogenesis Signaling"

HATTORI, Masahiro (Bioknowledge Systems)
"Analysis of Atom Transformation Patterns in Enzymatic Reactions Based on the Comparison of Chemical Compound Structures"

NORISUYE, Kazuhiro (Hydrospheric Environment Analytical Chemistry)
"Chemical Method for Analysis of Sources of Plutonium Isotopes in the Ocean"

- The ICR Award for Young Scientist -
TAKEDA, Nobuhiro (Organoelement Chemistry)
"Synthesis of Novel Organosilicon Species by Taking Advantage of a Silylene Bearing Bulky Substituents and the Elucidation of Their Properties"

- The ICR Award for Students -
MURATA, Michihisa (Structural Organic Chemistry)
"Organic Synthesis of Fullerene C_{60} Encapsulating Molecular Hydrogen"

KAN, Daisuke (Advanced Solid State Chemistry)
"Blue-Light Emission at Room Temperature from Ar^{+}- Irradiated $SrTiO_3$"

- The ICR Grants for Young Scientists -
TOKUDA, Yomei (Inorganic Photonics Materials)
"Studies of Glass Formation Process for Organic & Inorganic Hybrid Low-melting Glass and Application for Light Functionality Devices"

SHIMIZU, Seiji (Laser Matter Interaction Science)
"Development and Application for Advanced Laser Mass Spectrometry"

MIHARA, Hisaaki (Molecular Microbial Science)
"Analysis of Metabolic Pathways by Collaboration between Bioinformatics and Biochemistry"

OHNO, Kohji (Chemistry of Polymer Materials)
"Newly Development of Magnetically Tunable Colloidal Crystals"

POSTER PRESENTATIONS

LW : Laboratory Whole Presentation
LT : Laboratory Topic
GE : General Presentation

— Organoelement Chemistry —

LW "Synthesis of Nobel Organic Compounds Containing Heavier Elements by Taking Advantage of Kinetic Stabilization and the Elucidation of Their Properties"

GE NAGAHORA, Noriyoshi; SASAMORI, Takahiro; TOKITOH, Norihiro
"Syntheses, Structures, and Properties of Kinetically Stabilized 1,1'-Bis(diphosphenyl)ferrocenes"

GE TAJIMA, Tomoyuki; TAKEDA, Nobuhiro; SASAMORI, Takahiro; TOKITOH, Norihiro
"A Kinetically Stabilized Tin-Tellurium Double-bond Compound: Synthesis, Structure, and Reactivities"

— Structural Organic Chemistry —

LT YAMAZAKI, Daisuke; TANINO, Nobuhide; NISHINAGA, Tohru; KOMATSU, Koichi
"π-Dimer Formation of Radical-Cation Salt of Terthiophene End-Capped with Bicyclic Frameworks"

GE MAEDA, Shuhei; MURATA, Michihisa; MURATA, Yasujiro; KOMATSU, Koichi
"Encapsulation of Two Hydrogen Molecules into an Open-Cage C_{70} Derivative"

GE TERAYAMA, Miki; MIYATA, Yasuo; KOMATSU, Koichi
"Synthesis and Properties of Ferrocene Connected with Diphenylterthiophene by Alkyl Chain"

GE MATSUBARA, Hiroaki; KITAGAWA, Toshikazu; KOMATSU, Koichi
"Synthesis of Novel Ferrocene-Terminated Thiols and the Electrochemical Properties of Their Monolayers on Au(111)"

— Synthetic Organic Chemistry —

LT MURAMATSU, Wataru; NISHIO, Tadashi; KAWABATA, Takeo
"Regioselective Acylation of Sugars by Chiral Nucleophilic Catalysts"

GE MONGUCHI, Daiki; KAWABATA, Takeo
"Asymmetric Intramolecular Conjugate Addition of Chiral Enolates via Racemization-Free Equilibrium"

— Advanced Inorganic Synthesis —

LW "Activity Report: Advanced Inorganic Synthesis Laboratory"

LT AZUMA, Masaki
"Magnetic Ferroelectrics Bi,Pb-3d Transition Metal Perovskites"

— Chemistry of Polymer Materials —

LT YOSHIKAWA, Chiaki; GOTO, Atsushi; TSUJII, Yoshinobu; FUKUDA, Takeshi
"Novel Biointerface with Concentrated Polymer Brush - Protein Repellency of Concentrated Brush by Size-Exclusion Effect"

GE ZUSHI, Hirokazu; GOTO, Atsushi; FUKUDA, Takeshi
"Novel Living Radical Polymerization Catalyzed by Germanium and Tin Compounds"

GE OKAYASU, Kenji; TSUJII, Yoshinobu; FUKUDA, Takeshi
"Ultra-Low Frictional Properties of High-Density Polymer Brushes in a Good Solvent"

— Chemistry of Polymeric Functionality Materials —

GE TOGAI, Manabu; SENOO, Kazunobu; KOHJIYA, Shinzo
"Increase of Lithium-ion Conductivity by Uniaxial Stretching of PEO/Ionic Salt Solid Solution"

— Inorganic Photonics Materials —

LT MAEDA, Takahiro; TAKAHASHI, Masahide; YAO, Jianxi; TOKUDA, Yomei; NISHII, Junji; YOKO, Toshinobu
"Fabrication of TiO_2 Periodic Structure by the Photopolymerization-induced Phase Separation Method"

GE MIZUNO, Megumi; TAKAHASHI, Masahide; TOKUDA, Yomei; YOKO, Toshinobu
"Organically-modified Silicophosphate Prepared via Non-aqueous Acid-base Reaction"

GE KUNIYOSHI, Minoru; TAKAHASHI, Masahide; TOKUDA, Yomei; YOKO, Toshinobu
"Preparation of Organic-inorganic Hybrid Polysiloxane Glasses by Sol Concentration Method"

— Biofunctional Design-Chemistry —

LT TADOKORO, Akiko; NAKASE, Ikuhiko; KAWABATA, Noriko; TAKEUCHI, Toshihide; FUTAKI, Shiroh
"Cellular Uptake of Arginine-rich Peptides: Proteoglycans and R8"

GE HIGASHI, Chika
"Protein-protein Interaction between DNA Binding Zinc Finger Domains"

— Chemistry of Molecular Biocatalysts —

LT SAINO, Hiromichi; FUJIHARA, Fuyuki; MIZUTANI, Masaharu; HIRATAKE, Jun; SAKATA, Kanzo
"Elucidation of Substrate Recognition Mechanism by Disaccharide-specific Diglycosidases from Plants"

GE HASEGAWA, Atsuko; NAKAGAWA, Yuichi; HIRATAKE, Jun; SAKATA, Kanzo
"Directed Evolution of Lipase for Improved Amide-hydrolyzing Activity -Suturation Mutagenesis at Substrate Binding Site-"

GE HAN, Liyou; KAMIYAMA, Akane; HIRATAKE, Jun; SAKATA, Kanzo
"Probing the Catalytic Mechanism of Gamma-glutamyl Transpeptidase by Gamma-phosphono Glutamate Analogs as Mechanism-based Inhibitors"

— Molecular Biology —

LT KUSANO, Hiroaki; YASUDA, Keiko; AKI, Shiori; OKA, Atsuhiro; AOYAMA, Takashi
"Identification of the Arabidopsis Phosphatidyl Inositol 4-phosphate 5-kinase Gene Regulating Root-hair Development"

— Chemical Biology —

LT SATO, Ayato; KAWAZOE, Yoshinori; UESUGI, Motonari
"Design and Synthesis of Small Molecule Transcription Factors"

— Molecular Materials Chemistry —

LW "Structure and Dynamics of Functional Molecular Materials"

— Hydrospheric Environment Analytical Chemistry —

LT MOCHAMAD, Lutfi Firdaus; NORISUYE, Kazuhiro; SOHRIN, Yoshiki
"Development of a Solid-phase Extraction Method for the Determination of Zr, Hf, Nb, Ta and W in Seawater Using Inductively Coupled Plasma–Mass Spectrometry"

LT NAKATSUKA, Seiji
"Geochemistry of Trace Metals during an In-situ Iron Enrichment in Subarctic North Western Pacific"

— Solution and Interface Chemistry —

LT YOSHIDA, Ken; WAKAI, Chihiro; MATUBAYASI, Nobuyuki; NAKAHARA, Masaru
"Translational and Rotational Dynamics of Sub- and Supercritical Water Using High-Temperature High-Pressure Multinuclear NMR Probe"

GE MOROOKA, Saiko; WAKAI, Chihiro; MATUBAYASI, Nobuyuki; NAKAHARA, Masaru
"A New Hydrothermal C1 Chemistry: C-C bond Formation and Disproportionations from Formaldehyde and Formic Acid"

— Molecular Microbial Science —

LT KUROKAWA, Suguru
"Selenium Recognition Mechanism"

GE JITSUMORI, Keiji; OMI, Rie; KURIHARA, Tatsuo; MIYAHARA, Ikuko; HIROTSU, Ken; ESAKI, Nobuyoshi
"Cleavage Mechanism of Carbon-fluorine Bond by Fluoroacetate Dehalogenase"

— Polymer Materials Science —

LW "Detailed Analysis for Super-structure of Polymers"

GE TAKAYAMA, Yoshiyuki; OGINO, Yoshiko; MATSUBA, Go; NISHIDA, Koji; KANAYA, Toshiji
"Formation of Meso-phase and Crystallization of Isotactic Polystyrene under Shear"

GE TSUBOUCHI, Tsuyoshi; NISHIDA, Koji; KANAYA, Toshiji
"Phase Separation and Aggregation of Hetero Polyelectrolyte Solutions"

GE SAKAMOTO, Shinya; OGINO, Yoshiko; MATSUBA, Go; NISHIDA, Koji; KANAYA, Toshiji
"Effect of Ultra High Molecular Weight Component in Crystallization of Polyethylene under Shear Flow"

— Molecular Rheology —

GE TAKASHIMA, Ryota; MATSUMIYA, Yumi; INOUE, Tadashi; WATANABE, Hiroshi; KIHARA, Shinichi; OSHIMA, Masahiro
"Dielectric Behavior of Polyisoprene under Pressurized Carbon Dioxide"

GE MATSUMOTO, Manabu; MATSUMIYA, Yumi; INOUE, Tadashi; WATANABE, Hiroshi
"Nonlinear Rheology and Structure of Multi Block Copolymer"

GE TAGASHIRA, Masao; MATSUMIYA, Yumi; INOUE, Tadashi; WATANABE, Hiroshi
"Rheology and Rheo-dielectric Behavior of Lithium Perchlorate/Polyethyrene Oxide System"

GE OISHI, Yohei; WATANABE, Hiroshi
"Dynamics of Living Polybutadiene Anion"

— Molecular Aggregation Analysis —

LT TSUTSUMI, Junya; KATO, Shigeki; SATO, Naoki
"Ab Initio Calculation of Lattice Energy of Organic Molecular Crystals – Electronic Polarization Effect –"

GE ASAMI, Koji
"Dielectric Dispersion of Lysed Erythrocytes"

— Supramolecular Biology —

LT TAKAHARA, Keigo; TAKEUCHI, Ken-ichi; UMEDA, Masato
"Study for Function of Fatty Acid Desaturase in Organisms"

LT INADOME, Hironori; KATO, Utako; UMEDA, Masato
"Membrane Lipid Dynamics; Its Role in Regulation of Cell Morphology"

— Particle Beam Science —

LW "Research Activity at Particle Beam Science Laboratory"

LT IKEGAMI, Masahiro
"Beam Cooling Simulation at Ion Storage Ring S-LSR"

LT FADIL, Hicham
"Electron Cooling Experiments at S-LSR"

GE SHIRAI, Toshiyuki
"Beam Commissioning of the Ion Cooler Ring, S-LSR"

— Laser Matter Interaction Science —

LW "Activities of Laser-Matter Interaction Science"

GE HASHIDA, Masaki; SHIMIZU, Seiji; SAKABE, Shuji
"Femtosecond Laser Ablation of Material Surface"

— Electron Microscopy and Crystal Chemistry —

LT JIU, Jinting
"Dye-sensitized Solar Cell Based on TiO_2 Film Composed of Nanaorods"

LT NEMOTO, Takashi
"Regularly-shaped Diacetylene Nano-structures on Surfaces"

— Structural Molecular Biology —

LT HATA, Yasuo; FUJII, Tomomi
"Structural Analysis of Molecular Mechanism of CPY Inhibition by Protein I^C"

— Organic Main Group Chemistry —

LW "Organic Main Group Chemistry Lab in 2005"

GE FUKAZAWA, Aiko; HIRORI, Hideki; INOUYE, Hideyuki; TSUJI, Hayato; KANEMITSU, Yoshihiko; TAMAO, Kohei
"Photophysical Properties of Oligosilanes Based on the Bicyclic Trisilane Units"

GE INOUE, Tomoyuki
"Synthesis, Structure and Properties of Transition Metal-Phosphasilatriptyene Complexes"

GE KOMATSU, Shigeo; TSUJI, Hayato; SAEKI, Tomoyuki; KANDA, Yasuhisa; UMEHARA, Teruhiko; TAMAO, Kohei
"Development of Double *Ortho*-Lihtiation of Diphenylphosphoryl Amide and Benzophenone"

— Advanced Solid State Chemistry —

LW "Transition Metal Oxides - Functions and Synthesis -"

GE YAMAMOTO, Shinpei
"Synthesis of $L1_0$-FePt Nanoparticle by SiO_2 Nanoreactor Method"

— Organotransition Metal Chemistry —

LW "Recent Topics in Organotransition Metal Chemistry Laboratory"

GE MUTOH, Yuichiro; YAMAMOTO, Yasutaka; NAGAO, Masato; KATAYAMA, Hiroyuki; OZAWA, Fumiyuki
"Oligo(phenylene vinylene)s: Stereocontrolled Synthesis and Photochemical Properties"

GE YOSHIMURA, Ken-ichi; UEHIRA, Kosei; TAKANO, Masato; OKAZAKI, Masaaki; OZAWA, Fumiyuki
"Systematic Synthesis and Property of Haloacetylene-Coordinated Tetrairon Clusters"

— Photonic Elements Science —

LW "Recent Research Results in Photonic Elements Science"

— Bioknowledge Systems —

LW "Integrated Database for Genome and Chemical Information: KEGG and Prediction of Drug Degradation Pathways"

— Biological Information Networks —

LT K. C., Dukka Bahadur; AKUTSU, Tatsuya
"Clique Based Algorithms for Protein Threading with Constraints"

— Pathway Engineering —

LT ZHU, Shanfeng; MAMITSUKA, Hiroshi
"Mining Biomedical Co-occurrence Data Using a Probabilistic Model"

— Bioinformatics Training Unit —

LT ICHIHARA, Hisako; KUMA, Kei-ichi; TOH, Hiroyuki
"Evolutionary Analysis of Proteins Relevant to Quorum Sensing"